

## Yingtong “Amanda” Wu, Ph.D.

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### EMPLOYMENT

- 2022–present, **Postdoctoral researcher**, Biology, Stanford University

### EDUCATION

- 2017–2022, **Ph.D.**, *Ecology, Evolution and Systematics*, Department of Biology, University of Missouri–St Louis, U.S.A.  
Thesis title: The Ecology and Evolution of Species Rarity in Oaks (*Quercus* spp.)  
Committee: Dr. Robert E. Ricklefs (supervisor), Dr. Robert J. Marquis, Dr. Nathan Muchhala, Dr. Jonathan Myers, Dr. Scott Mangan, Dr. Ivan Jimenez
- 2013–2017, **B.Sc.**, *Ecology*, School of Life Science, Sun Yat-sen University, Guangzhou, China  
Thesis title: Climatic Factors Drive Mangrove Species Diversity Pattern at Regional Scale  
Supervisor: Dr. Shixiao Yu

### PEER-REVIEWED PUBLICATIONS (student mentees are underlined>)

#### **Published:**

- 6. Wu, Y.**, Ricklefs, R. E. (2022) Linking multiple hypotheses to a unifying framework of range-size variation: A case study with American oaks (*Quercus* spp.). *Global Ecology and Biogeography*. (Accepted on Oct. 4<sup>th</sup>, 2022)
- 5. Li, S., Pu, J., Fan, S., Wu, Y.**, Liu, X., Meng, Y., Li, Y., Shu, W. Li, J., Jiang, L. (2022) Functional traits explain the consistent resistance of biodiversity to plant invasion under nitrogen enrichment. *Ecology Letters*, 00, 1–12. DOI: 10.1111/ele.13951
- 4. Wu, Y.**, Kwak, J. H., Karst, J., Ni, M., Yan, Y., Lv, X., Xu, J., Chang, X. S. (2021) Long-term nitrogen and sulfur deposition increased root-associated pathogen diversity and changed mutualistic fungal diversity in a boreal forest. *Soil Biology and Biochemistry*, 155, 108163.
- 3. Wu, Y.**, Petrosky, A. L., Hazzi, N. A., Woodward, R. L., Sandoval, L. (2021) The role of learning, acoustic similarity and phylogenetic relatedness in the recognition of distress calls in birds. *Animal Behaviour*, 175, 111-121.
- 2. Ni, M., Deane, D. C., Li, S., Wu, Y.**, Sui, X., Xu, H., ... & Fang, S. (2021). Invasion success and impacts depend on different characteristics in non-native plants. *Diversity and Distributions*, 27, 1194–1207.
- 1. Wu, Y.**, Ricklefs, R. E., Huang, Z., Zan, Q., Yu, S. (2018). Winter temperature structures mangrove species distributions and assemblage composition in China. *Global Ecology and Biogeography*, 27(12), 1492–1506.

#### **In review:**

- **Wu, Y.**, Hipp, A., Fargo, G., Stith, N., Ricklefs, R. E. Confronting botanical taxonomic problems and improving species delimitation for effective conservation: A case study in the endemic maple-leaf oak (*Quercus acerifolia*). Under review by *New Phytologist*.
- **Wu, Y.**, Brown, A., Ricklefs, R. E. Host-specific soil microbes contribute to habitat restriction of closely related oaks (*Quercus* spp.). Under review by *Ecology and Evolution*. ([preprint](#)).

## ARTICLES

- **Wu, Y.** (2022) A tale of two lonely oaks: *Quercus acerifolia* and *Q. humboldtii*. *International Oaks*, 33.

## AWARDS AND GRANTS

### **Research Grants (\$48,495):**

- 2022, "Save Our Trees: California Fires and Oaks", Crowdfunding campaign through GoFundMe, \$2,245
- 2022, Grants for CA Native Plant Projects and Research, California Native Plant Society Alta Peak Chapter, \$500
- 2022, Maxwell Hanrahan Foundation-Missouri Botanical Garden Funds (CO-PI), \$3,000
- 2021, Maxwell Hanrahan Foundation-Missouri Botanical Garden Funds (CO-PI), \$3,400
- 2020, Mickey Scudder Scholarship in Field Biology, Webster Groves Nature Study Society, \$1,000
- 2020, International Association of Plant Taxonomy Research Grant, \$1,100
- 2020, American Society of Naturalists Student Research Awards, \$2,000
- 2020, Graduate Student Research Award, Society of Systematic Biologists, \$3,000
- 2020, Deland Award for Student Research of Arnold Arboretum, \$10,000
- 2020, Graduate Women in Science Nell Mondy/Jean Langenheim Fellowships, \$6,750
- 2019, Harris World Ecology Center Community Scholarship, \$7,000
- 2018, Harris World Ecology Center Graduate Research Scholarship, \$4,000
- 2016, Research Internship Funding from China Scholarship Council, CAD, \$4,500

### **Fellowships and Awards (\$141,250):**

- 2022, Travel Award, Graduate Women in Science National Conference, \$500
- 2022, Best Quick Talk Award, Graduate Women in Science National Conference, \$400
- 2022, Graduate Research Fair First Prize, University of Missouri–St. Louis, \$500
- 2021, Dr. David F. Ludwig Memorial Student Travel Scholarship, AEHS Foundation, \$1,000
- 2021, Jenni Higashiguchi Memorial Award, \$1,000
- 2020, St. Louis Chapter of Graduate Women in Science Travel Award, \$450
- 2020, Virginia Thomas Scholarship, Federated Garden Clubs of Missouri, \$4,000
- 2019, Christensen Fund Graduate Fellowships in Plant Conservation, \$125,000
- 2019, Third prize and people's choice award, Three-Minute-Thesis Competition at University of Missouri–St. Louis, \$300
- 2017, Outstanding Undergraduate Thesis Award, Sun Yat-sen University, \$100
- 2013–2016, China National Scholarships (merit-based), \$6,000
- 2013–2016, Sun Yat-sen University Undergraduate Scholarships, \$1,500
- 2015, Mei-Ge Undergraduate Merit Scholarship, \$500

## TEACHING AND MENTORING EXPERIENCE

### **Teaching:**

- 2022, Teaching Assistant, Vertical Voyage Tree-Climbing Class for K-12 Students, St. Louis, U.S.A
- 2021, Teaching Assistant, R Basics Workshop (virtual), Missouri Botanical Garden, St. Louis, U.S.A
- 2017–2019, Teaching Assistant, Human Anatomy and Physiology Lab, University of Missouri–St. Louis, U.S.A

### **Mentoring:**

- 2020–2021, Jacob Kottmeier (undergraduate, University of Missouri–St. Louis). Investigated the effects of soil microbes on the maintenance of population genetic diversity in basil; awardee of 2020 Harris World Ecology Center Undergraduate Research Scholarship
- 2020, Nora Stith (undergraduate, University of Missouri–St. Louis). Investigated the species boundaries of a rare oak species, *Quercus acerifolia*, using morphological measurements from online herbarium collection
- 2019–2020, Alicia Brown (undergraduate, University of Missouri–St. Louis). Assisted greenhouse work and data analyses for my Ph.D. dissertation research.
- 2019, Ari Zakroff (undergraduate, University of Missouri–St. Louis). Assisted greenhouse work for my Ph.D. dissertation research.
- 2019, Jenna Rahmberg (undergraduate, University of Missouri–St. Louis). Assisted greenhouse work for my Ph.D. dissertation research.
- 2019, Tylor Miller (undergraduate, University of Missouri–St. Louis). Assisted morphological traits measurement for my Ph.D. dissertation research; awardee of 2019 Harris World Ecology Center Undergraduate Research Scholarship
- 2019, Jermaine Williams, Matt Fook, and Ameshia Ellison (high school students, Shaw Institute for Field Training program). Assisted morphological traits measurement for my Ph.D. dissertation research.

### **Guest lectures:**

- 2021, Advanced Evolution (graduate level), University of Missouri, St. Louis
- 2021, Introductory Biology Journal Club (graduate level), University of Missouri, St. Louis
- 2021, Introduction to Evolution (undergraduate level), University of Missouri, St. Louis
- 2020–2021, Wood Plant Systematics (undergraduate level), Washington University of St. Louis, St. Louis

### **Teaching Conferences:**

- 2021, Focus on Teaching & Technology, a St. Louis Regional Conference (virtual) – participant
- 2021, Center for Teaching and Learning (UMSL) Spring Forum (virtual) – participant

## PRESENTATIONS

### **Oral presentations:**

- 2022, **Wu, Y.** How do wildfires vs. prescribed burning affect oaks' microbiomes and seedling regeneration? *Sierra National Forest Quarterly Tribal Forum*, virtual
- 2022, **Wu, Y.**, Hipp, A., Fargo, G., Stith, N., Ricklefs, R. E. Integrating field, herbarium, and *ex situ* samples to understand the nature of an endemic Ozarks Species, the maple-leaf oak. *Botanical Society of America Annual Conference*, Anchorage, AK, U.S.A
- 2021, **Wu, Y.**, Henderson, D. Larger trees of *Quercus humboldtii* (Andean oaks) in primitive forests suffer less herbivory in western cordilleras in Colombia. *International Canopy Conference*, virtual.
- 2021, **Wu, Y.**, Jimenez, I., Ricklefs, R. E. What limits species ranges? Investigating the effects of biotic and abiotic factors on oaks (*Quercus* spp.) through experiments and field survey. *Botanical Society of America Annual Conference*, virtual.
- 2021, **Wu, Y.**, Kwak, J. H., Karst, J., Ni, M., Yan, Y., Lv, X., Xu, J., Chang, X. S. Long-term nitrogen and sulfur deposition increased root-associated pathogen diversity and changed mutualistic fungal diversity in a boreal forest. *Ecological Society of America Annual Meeting*, virtual
- 2021, **Wu, Y.**, Jimenez, I., Ricklefs, R. E. Climate niche position and post-glacial accessibility determine oak (genus *Quercus*) species range size in north and central America. American Society of Naturalists – Virtual Asilomar 2021, virtual
- 2019, **Wu, Y.** Climate, herbivory, or soil Microbes: What determines species range limits in oaks (*Quercus*)? *St. Louis Ecology, Evolution, and Systematics Retreat Meeting*, St. Louis, MO, U.S.A. (invited presentation)
- 2017, **Wu, Y.** Structural equation modelling reveals winter sensitivity influencing species richness and community composition of mangrove forests across China. *The 2nd Graduate Consortium of Ecology and Conservation*, Hong Kong,

### **Poster presentations:**

- 2022, **Wu, Y.** Integrating multiple data sources to understand the nature of an endemic species, the Maple-leaf Oak. *The 10<sup>th</sup> International Oak Society Conference*, Las Cruces, NM
- 2020, **Wu, Y.**, Ricklefs, R. E. What determines species range limits? Investigating the effects of biotic and abiotic factors on oaks (*Quercus* spp.) through experiments and field surveys. *Ecological Society of America Annual Meeting*, virtual
- 2020, **Wu, Y.**, Jimenez, I., Ricklefs, R. E. What determines species range size? Testing niche-breadth and niche-position hypotheses in North and Central American oaks (*Quercus* spp.). *Botanical Society of America Annual Conference*, virtual.
- 2019, **Wu, Y.**, Jimenez, I., Ricklefs, R. E. The fate of a rare oak species in the face of interspecific gene flow—a morphological perspective. *Missouri Botanical Garden Annual Fall Symposium*, St. Louis, U.S.A.
- 2018, **Wu, Y.**, Petrosky, A., Hazzi, N. A., Woodward, R. L., Sandoval, L. To Help or Not to Help, that is the Question—Interspecific Recognition of Distress Call in Birds: Innate or Learned? *St. Louis Ecology, Evolution, and Conservation Retreat*, St. Louis, U.S.A.
- 2017, **Wu, Y.**, Huang, Z., Yu, S. Structural equation modelling reveals winter sensitivity influencing species richness and community composition of mangrove forests across China. *International Botanical Conference*, Shenzhen, China

## **PROFESSIONAL TRAINING**

- 2019–2021, Certificate of University Teaching (CUT) Program, University of Missouri–St. Louis, U.S.A.
- 2021, Tree Climbing Course, Vertical Voyages, St. Louis, U.S.A.
- 2020, Botany 2020 Conference Online Workshop, “Introduction to High-Throughput Sequencing: Techniques, Applications, and Analysis” (Virtual)
- 2020, Botany 2020 Conference Online Workshop, “Ace it! - Give a Better Talk” (Virtual)
- 2018, The LabEx TULIP Summer School, Topic “Biological Interactions, from Genes to Ecosystems,” Toulouse, France
- 2018, Tropical Field course of Organization of Tropical Studies, Topic “Tropical Biology: An Ecological Approach,” Costa Rica
- 2016, Research Intern, Department of Renewable Resources, University of Alberta, Edmonton, Canada

## **SERVICES AND OUTREACH**

### **Services:**

- 2021, Graduate Women in Science (GWIS) National Fellowship Program Evaluation Committee
- 2020, judge of the St. Louis Science Fair, Honors Division of Academy of Science
- 2019–2020, student representative at the Harris Center Social Media Committee
- 2019–2020, student representative at the Assistant Professor Search Committee, University of Missouri–St. Louis
- 2019, Tree Giveaway at Kemper Center for Home Gardening, Missouri Botanical Garden
- 2018, Campus Trash-Pickup, University of Missouri–St. Louis
- 2018, Earth Day demonstration as a representative of Harris World Ecology Center, Forest Park, St. Louis

### **Referee:**

- Plant Ecology & Diversity (2021)
- Biology and Fertility of Soil (2020, 2021)

## **SOCIETY AFFILIATIONS**

- Ecological Society of America
- American Society of Plant Taxonomists
- American Society of Naturalists
- International Oak Society
- Torrey Botanical Society
- Graduate Women in Science
- Society of Systematic Biologists
- Global Conservation Consortium for Oak

## **HOBBIES**

Rock climbing, tree climbing, urban foraging, home gardening, house-plant collection, hiking, cooking indigenous foods

## **LANGUAGES**

Cantonese (fluent), Mandarin (fluent), English (fluent), Spanish (beginner)

